



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0447; Directorate Identifier 2014-NM-019-AD; Amendment 39-18368; AD 2016-01-09]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier Model DHC-8-400 series airplanes. This AD was prompted by a report of several cracks found on the forward passenger airstair door step assembly. This AD requires an inspection to determine the serial number of the airstair door step assembly, and if necessary, an electronic tap test, reidentification of the airstair door step assembly, and replacement of the airstair door step assembly. We are issuing this AD to detect and correct cracks in the forward passenger airstair door step assembly; such cracking could propagate and result in the structural failure of the steps and impede the evacuation of passengers in the event of an emergency egress situation.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0447>; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For service information identified in this final rule, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0447.

**FOR FURTHER INFORMATION CONTACT:** Jeffrey Zimmer, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7306; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier Model DHC-8-400 series airplanes. The NPRM published in the Federal Register on July 17, 2014 (79 FR 41661). The NPRM was prompted by a report of several cracks found on the forward passenger airstair door step assembly. The NPRM proposed to require an inspection to determine the serial number of the airstair door step assembly, and if necessary, an electronic tap test, reidentification of the airstair door step assembly, and replacement of the airstair door step assembly. We are issuing this AD to detect and correct cracks in the forward passenger airstair door step assembly; such cracking could propagate and result in the structural failure of the steps and impede the evacuation of passengers in the event of an emergency egress situation.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2013-20R1, dated December 30, 2013 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

There has been one in-service report of several cracks being found on the forward passenger airstair door step assembly between the steps and the sidewall panels. The investigation revealed that the application of potting compound may have been omitted during the bonding at the joint of the airstair door steps and the sidewalls. The omission of potting compound could cause the bonding sealant to crack. The cracks, if not detected, could propagate to result in the structural failure of the steps.

In the event of an emergency egress situation, the failure of the airstair step assembly could impede the evacuation of passengers.

This [Canadian] AD mandates the replacement of the affected forward passenger airstair step assembly with a new or reworked step assembly.

Revision 1 of this [Canadian] AD provides additional instructions for performing an electronic tap test of the airstair step assembly if the Serial Number (S/N) of the airstair step assembly cannot be found.

Required actions include an inspection to determine the serial number of the airstair door step assembly, and if necessary, an electronic tap test and reidentification and replacement of the assembly. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0447-0004>.

#### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM (79 FR 41661, July 17, 2014) and the FAA's response to each comment.

#### **Request to Refer to Latest Service Information**

Republic Airlines and Horizon Air requested that we revise the NPRM (79 FR 41661, July 17, 2014) to refer to the latest service information.

We agree with the request. The revised service information, Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, provides minor wording changes but does not change the procedures or add any airplanes. We have revised paragraphs (g) and (h) in this AD to refer to the new service information, and added Bombardier Service Bulletin 84-52-77, Revision B, dated October 31, 2013, to paragraph (i) of this AD, to provide credit for previous actions done before the effective date of this AD.

### **Request to Allow Records Review**

Horizon Air requested that we revise paragraph (g) of the proposed AD (79 FR 41661, July 17, 2014) to allow a review of aircraft records, in addition to a physical inspection, as a way to determine the serial number of the airstair door step assembly.

We disagree with the request. A review of aircraft records may provide an appropriate means to determine serial numbers. For the airstair door step assembly, however, we understand that operators may remove and exchange the assemblies within their fleet for repair, and replace them relatively quickly to minimize airplane downtime. In these cases, there may be a lag between the removal and replacement action and updating the records typically used to conduct a records review. In coordination with TCCA, we have determined that airplane records may not reliably reflect the serial numbers of all airstair door step assemblies present on the affected airplanes. However, under the provisions of paragraph (j)(1) of this AD, we will consider requests for approval of an alternative method of compliance for determining serial numbers, if sufficient data are submitted to substantiate that the new method would provide an acceptable level of safety. We have not changed this final rule regarding this issue.

### **Request to Allow Maintenance Manual Tasks for Airstair Replacement**

Horizon Air requested that we revise paragraph (g)(1)(ii) of the proposed AD (79 FR 41661, July 17, 2014), which would conditionally require replacing the airstair door step assembly in accordance with Bombardier Service Bulletin 84-52-77, Revision B, dated October 31, 2013. For this action, Horizon Air requested that we also allow the replacement to be done using maintenance manual tasks 52-11-01-000-801 and 52-11-01-400-801. Horizon Air stated that the service information specified in the NPRM does not include any actions beyond those specified in the maintenance manual tasks.

We disagree with the request. Part 3, “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, does, in fact, specify additional tasks not included in the maintenance manual tasks referenced by the commenter. The additional tasks include verification of the serial number of the new airstair door step assembly before installation, and adjustment and a functional check of the new door. We have not changed this AD regarding this issue.

#### **Request to Limit Requirements to Steps that Correct the Unsafe Condition**

Horizon Air requested that we revise the NPRM (79 FR 41661, July 17, 2014) to require only the section of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, that directly corrects the unsafe condition: paragraph 3.B., “Procedure.” Horizon Air stated that the unsafe condition is not directly corrected by accomplishment of the actions specified in paragraph 3.A., “Job Set-up,” and paragraph 3.C., “Close Out,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014. Horizon Air added that incorporating the Job Set-up and Close Out as a requirement of the AD would restrict an operator’s ability to perform other maintenance in conjunction with the incorporation of the service information.

We agree with the request and the commenter’s rationale. We have revised paragraph (g) of this AD accordingly.

#### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the

changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 41661, July 17, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 41661, July 17, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

#### **Related Service Information under 1 CFR part 51**

Bombardier has issued Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014. The service information describes procedures for determining the airstair door step assembly serial number, doing an electronic tap test, and reidentifying and replacing the assembly. This service information is reasonably available because the interested parties have access to it through their normal course of business or by means identified in the ADDRESSES section of this AD.

#### **Costs of Compliance**

We estimate that this AD affects 76 airplanes of U.S. registry. We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$0 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$6,460, or \$85 per product.

In addition, we estimate that any necessary follow-on actions would take up to 9 work-hours and require parts costing \$206,175, for a cost of \$206,940 per product. We have no way of determining the number of aircraft that might need these actions.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;



2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0447>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2016-01-09 Bombardier, Inc.:** Amendment 39-18368. Docket No. FAA-2014-0447;  
Directorate Identifier 2014-NM-019-AD.

**(a) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF  
PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes,  
certificated in any category, serial numbers 4001 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 52, Doors.

**(e) Reason**

This AD was prompted by a report of several cracks found on the forward  
passenger airstair door step assembly. We are issuing this AD to detect and correct cracks  
in the forward passenger airstair door step assembly, which could propagate and result in  
the structural failure of the steps and impede the evacuation of passengers in the event of  
an emergency egress situation.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection, Electronic Tap Test, Reidentification, and Replacement of the  
Airstair Door Step Assembly**

For airplanes having serial numbers 4001 through 4393: Within 320 days after the  
effective date of this AD, do an inspection to determine the serial number of the airstair

door step assembly, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

(1) If the serial number of the airstair door step assembly cannot be found, or if the serial number is illegible: Before further flight, do an electronic tap test to determine the existence of epoxy compound, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

(i) If the existence of epoxy compound is confirmed, before further flight, reidentify the airstair door step assembly, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

(ii) If the existence of epoxy compound is not confirmed: Within 6,000 flight hours after the effective date of this AD, replace the airstair door step assembly, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

(2) If the serial number of the airstair door step assembly is in the affected range specified in paragraph 1.A., “Effectivity,” of Bombardier Service Bulletin 84-52-77,

Revision C, dated June 5, 2014: Within 6,000 flight hours after the effective date of this AD, replace the airstair door step assembly, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

**(h) Parts Installation Prohibition**

As of the effective date of this AD, no person may install on any airplane an airstair door step assembly with part number 85217008-001 containing a serial number in the affected range specified in paragraph 1.A., “Effectivity,” of Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, and with the attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

**(i) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD if the serial number is known, and if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-52-77, Revision A, dated April 24, 2013; or Bombardier Service Bulletin 84-52-77, Revision B, dated October 31, 2013.

This service information is not incorporated by reference in this AD.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) **Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2013-20R1, dated December 30, 2013, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0447-0004>.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (1)(3) and (1)(5) of this AD.

**(I) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 84-52-77, Revision C, dated June 5, 2014, including Appendix A, which is undated, and attached Short Brothers Service Bulletin D8400-52-0011, Revision C, dated February 26, 2014.

(ii) Reserved.

(3) For Bombardier service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) For Short Brothers service information identified in this AD, contact Short Brothers PLC, Airworthiness, P.O. Box 241, Airport Road, Belfast, BT3 9DZ Northern Ireland; telephone +44(0)2890-462469; fax +44(0)2890 468444; email [michael.mulholland@aero.bombardier.com](mailto:michael.mulholland@aero.bombardier.com); Internet <http://www.bombardier.com>.

(5) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(6) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the

availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on January 4, 2016.

Victor Wicklund,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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